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Based upon selected findings of a case study of an elementary school which attempted to implement a major organizational innovation--the redefinition of the teacher's role in an individualized instructional program--factors were identified that help to explain why implementation efforts fail. The laboratory school, with a positive climate for educational change, contained nearly 200 pupils and 11 teachers in a depressed area with 60% Negro residents. In contrast to previous studies which have identified "resistance to change" as the main cause of an innovation's failure, analysis of the case study's findings determined that a number of important variables influence the implementation of directed change. These variables include (1) clarity of an innovation as perceived by organizational members, (2) capability of members to perform it, (3) availability of necessary tools and equipment, and (4) compatibility of organizational conditions with the innovation. The administrator's role is particularly important in establishing conditions conducive to innovation and in rewarding innovative efforts. Resistance can develop over time as a consequence of frustrations members encounter in attempting to implement an innovation. From the study's findings a number of suggestions are drawn to assist in the implementation of organizational innovations. (JK)

COMPLEX ORGANIZATIONS: THE IMPLEMENTATION OF MAJOR ORGANIZATIONAL INNOVATIONS*

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Complex Organizations: The Implementation of Major Organizational Innovations*

In his incisive paper on "The Bearing of Empirical Research on Social Theory" Merton[1] points out that one of the ways in which empirical research invites the extension of theory is through observation of neglected facts. In his words, "When an existing conceptual scheme commonly applied to a subject-matter does not adequately take these facts into account, research presses insistently for its reformulation. It leads to the introduction of variables which have not been systematically included in the scheme of the analysis."[2]

A case study we conducted of an elementary school attempting to implement a major organizational innovation led us to identify a set of facts that were of critical importance in explaining why the implementation effort failed and that appear to have been neglected in schemes of analysis that have been proposed to account for the success or failure of efforts to implement changes in organizations. In this paper we shall report selected findings of that case study and attempt to spell out their theoretical implications. First, however it is relevant to consider the central ideas involved in the few schemes of analysis that have been proposed to account for the success or failure to implement changes in organizations.

The Implementation of Organizational Innovations: The Way the Problem Has Been Conceptualized

In their attempts to account for the success or failure of deliberate or planned organizational change, social scientists have generally

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conceptualized the problem as essentially one of overcoming organizational members' resistance to change.[3] Argyle's consideration of change in organizations provides a good illustration of this type of formulation of the problem. He states:

> In the first place, there is usually resistance to change of any sort. . . . In social organizations, patterns of behaviour become established and are of great stability because individuals work out drive-reducing ways of adapting, and fear that any change will be to their disadvantage in some way. Changes in industry are resisted by workers because they are afraid that they will be paid less or will have to work harder to earn the same amount. Wage-incentive schemes have often foundered for this reason. Changes are resisted by managers because they are afraid that their position will be weakened somehow or that they will be further from the centre of power. Current changes in prisons are resisted by prison officers and prisoners alike because they have no desire to associate with each other. . . . There is anxiety either about possible material loss or about the disruption of a well-established and satisfying social system.[4]

As a consequence of this definition of the problem of planned organizational change, most efforts to account for the success or failure of attempts to implement organizational change have focused on the ability of management or a change agent to overcome members' initial resistance to change.[5] Thus, Argyle, after his enumeration of a number of reasons why organizational members will resist change, states, "It may be impossible to bring about change in the teeth of such resistance, and it is usually possible only if the new scheme can be shown to be advantageous. This may be achieved by means of financial incentives, honorific ranks, training courses, or by sheer persuasive skill."[6]

The premise of organizational members' resistance to change appears to be the basic assumption underlying the power-equalization concept[7] that has been so frequently invoked to account for the differential success of organizations to implement innovations. This theory assumes that if innovations are introduced by management into an organization

without prior involvement in their formulation by the organizational members who must implement them, they will offer resistance to the innovation; it is further assumed that this resistance constitutes the major obstacle to the implementation of innovations. The theory then posits that to overcome this resistance, management must share its power with those who must implement innovations by allowing them to participate in the decisions about the change to be made. Through involving members who must implement the change in its formulation, it is assumed that they will perceive the innovation as self-imposed and thereby become committed to it. On the basis of these assumptions, it is reasoned that the extent to which organizational changes are implemented can be attributed primarily to the degree to which there is power equalization between management and subordinates in the formulation of innovations.

Thus, in discussing styles of administration as they bear on organizational change, Argyle maintains:

> The main principle here is that subordinates should be persuaded and motivated rather than ordered -- so that they actually want to behave in the new way. This persuasive and democratic style means allowing people to take part in discussion and decisions.[8]

And Leavitt, in his review of the power equalization approaches to organizational change notes:

> Power equalization has thus become a key concept in several of the prevalent people theories, a first step in the theoretical causal chain leading toward organizational change. It has been constructed as an initial subgoal, a necessary predecessor to creative change in structure, technology, task-solving, and task implementation. Although the distances are unmarked, there is no obscurity about direction: a more egalitarian distribution is better.[9]

The premise of resistance to change on the part of organizational members appears to underlie the large body of group dynamics literature that deals with the problem of organizational change. A major theme of

this literature is that through human relations training in sensitivity or T-groups, organizational members' resistance to change can be "unfrozen" and a positive orientation to change can be instilled in them.[10]

In appraising formulations that view the problem of implementing organizational innovations as basically one of overcoming organizational members' initial resistance to change, we concluded that they appeared to be too simplistic because they ignored many other circumstances and conditions that could have an important bearing on the success or failure of the implementation of innovations. Three general and interrelated conditions that they disregard and that seem to us to be of critical importance are: (1) organizational members who are not resistant to change may encounter obstacles in their efforts to implement an innovation which may make it difficult or impossible for them to carry it out; (2) individuals in organizations are in part dependent upon members of their role set to overcome these obstacles and they may or may not fulfill them; and (3) members who are initially predisposed to accept organizational change may develop a negative orientation to an innovation, and therefore be unwilling to implement it, as a consequence of the frustrations they have encountered in attempting to carry it out.

We thought that the most strategic way to ascertain whether there was any empirical support for our objections to the simplistic way in which we felt the problem of implementing organizational innovations has been generally defined would be to study an organization attempting to implement a major innovation in which members had an initial positive orientation to change. We reasoned that if our reservations about the "resistance to change" explanations were groundless, then we should find that the implementation effort would be successful. If the implementation

effort failed, then this might offer support for our contention that more complex schemes were needed to account for the success or failure of the implementation of organizational innovations. In this event, such a study also would provide evidence about the specific obstacles that confront organizational members as they attempt to implement organizational changes and specific ways in which they are dependent on members of their role set. Furthermore, we hoped that the results of the inquiry also might prove suggestive for developing a theory that took into account the complex and dynamic nature of the process required for successful implementation of organizations.

An opportunity to conduct such a case study arose in the summer of 1966. We now turn to that study and its findings with reference to the issues we have raised. In the final section of this paper we will propose a tentative theory of the implementation of organizational innovations suggested by the results of our inquiry.

The Innovation and the Educational Setting

The innovation, a new definition of the teacher's role, was described by its originator to the teachers in an official document in November of 1966 as follows: (1) teachers were expected to behave in ways that would assist children to learn according to their interests rather than in terms of a prescribed curriculum; (2) teachers were expected to emphasize the process, not the content, of learning, and to allow pupils maximum freedom in choosing their own activities; (3) teachers were expected to see that the classroom was saturated with a variety of educational materials, primarily self-instructional in nature, so

that children could pursue their own interests; (4) teachers were expected to act as facilitators of learning between children and materials and to encourage teaching of children by other children; (5) teachers were expected to allow pupils to decide the materials they wish to work with, how long they will work with them, and with whom they wish to relate; (6) teachers were expected to give pupils primary responsibility for directing their own learning and to assist them only when they perceived that their help was desired or needed.

The elementary school contained nearly 200 pupils and 11 full-time teachers and was located in a lower-class urban area of the central city of an eastern metropolitan area of the United States. Nearly 60 per cent of the residents of this area were Negro and they had encountered serious financial, housing, transportation, and educational problems. In response to pressure from citizens in this and other sections of the city for new schools and improvements of the quality of education in existing schools, the Board of Education in 1965 created a Bureau for Educational Change that was financed by a large federal grant. It was charged with the responsibility of creating and administering laboratory schools, and the school we studied was one of them. They were expected to focus primarily on developing and testing new programs to improve means of educating "disadvantaged students." An educational specialist brought from outside the school system was appointed as the Director of the Bureau and became Director of the school as well. He was the originator of the innovation.

The laboratory school into which he introduced the innovation in November, 1966, contained both a very positive external and internal climate for educational change. The parents and higher administrative

officials had expressed a strong interest in obtaining improvements in the educational program of the school. The Director was well known as an educational innovator and as a person who had strong beliefs about the necessity of educational change. He was given considerable autonomy in the operation of the laboratory school and freedom in selecting its faculty. He had attempted to secure a staff that was dissatisfied with the existing educational program offered to children in the ghetto and who had evinced a strong interest in educational change. As a consequence of its support by Title III funds, the financial and personnel resources of the laboratory school were substantially greater than those of other elementary schools. In addition to the teaching faculty, there were three subject specialists, student teachers, and teacher aides. The salary of the teachers was augmented by an additional payment equal to about 15 per cent of their base salaries to compensate them for the additional time and energy they would be required to expend as members of a laboratory school staff.

In the fall of 1966, a basic norm of the school was that teachers should accept and promote educational change. Our interviews revealed that all teachers recognized and accepted the need for major educational innovations in slum schools, and our field observations showed that they were using new types of instructional materials and that the administration was rewarding innovative behavior. Therefore, it was not surprising that the interviews showed that no teachers were resistant to attempting to implement the innovation at the outset; when it was first announced all indicated that they were willing to make efforts to carry it out.

In a monograph now in preparation,[11] we present a detailed description of the research methods used in conducting the study, the problems

that were encountered in carrying it out, and how we attempted to resolve them. An extensive body of data was collected on the basis of daily field observations conducted over nearly a seven-month period, the examination of public and private documents, and informal and formal interviews with the teachers, their administrators, and other school personnel. Evidence from several sources indicated that a high degree of rapport had been developed between the field worker and the faculty. The formal interviews with the teachers, averaging three hours in length, were carried out in the spring of 1967 just prior to three weeks of intensive daily classroom observations. These observations were conducted in an effort to assess the degree to which the innovation had been implemented.

Findings of the Case Study and Their Theoretical Implications

Despite the set of apparently positive antecedent and prevailing conditions that existed in the school system, community, and school in November, 1966, when the innovation was first introduced to the teachers, in the spring of 1967, after six months of efforts, we found that practically no effort was being made to implement the innovation. Assessment of the extent to which teachers were performing in accord with the new role model showed that in May all teachers were still behaving, for the most part, in accord with the traditional role model.[12] They were devoting very little time to trying to implement the innovation and, within that small period of time, their performance did not conform to key expectations of the new role model. Because of the minimal degree of implementation we observed in both quantitative and qualitative terms,

we concluded that this was a case of a failure to implement a major organizational innovation.

We have noted that conceptual schemes designed to account for the success or failure of efforts to implement innovations assume that the primary reason that members of an organization do not carry them out is because they are resistant to organizational change. However, this circumstance could not account for the failure of the teachers to implement the innovation for, as noted, all the teachers were positively predisposed to accept major organizational changes in the school when the innovation was presented to them.

Our study offered support for our preconception that existing formulations of the implementation process ignore barriers encountered by members of organizations who are willing to carry out innovations after they attempt to implement them.

The findings suggested that the failure of the teachers to implement the innovation in May could be traced to a set of problems to which they were exposed after they attempted to carry it out that were never resolved. What were these barriers that were of critical importance in accounting for the failure of the implementation effort we studied but that existing conceptual schemes disregard?

Barriers to Organizational Members' Implementing Innovations

One barrier to which organizational members can be exposed is lack of clarity about the innovation that they are being requested to implement. Our observations of teachers as they attempted to implement the new role model suggested that most of them did not have a clear image of the role performance expected of them. Our formal interviews confirmed

these field observations. They revealed that most teachers were confused about the innovation when it was first described to them in November, when they initially attempted to implement it in January, and just prior to our assessment of the degree of implementation in May.

In reporting our findings we shall present the responses of 10 of the 11 teachers since the validity of the replies of one teacher to the formal and informal interviews is highly questionable.[13] When we asked the teachers, "After you first heard about the innovation did you have a clear picture of what you were expected to do in carrying it out?," nine of the 10 responded in the negative. Here are some typical responses when they were asked the follow-up question, "In what respects was the innovation unclear?" One teacher replied, "At that time, and still, what methods would best implement it. . .;" a second responded, "Its unclear in most ways; how are you supposed to get a new idea across to children when he [the Director] didn't want us to call children together; I am unclear as to my role!" A third said, "How should the classroom teacher behave in this situation? The Brochure never spelled out the teacher's job!" And a fourth replied, "What is the teacher's role? Should she outline daily activities? Should she spur children on? Would the activity period be all or part of the day?"

When these teachers were asked about their understanding of the innovation just before they were requested to make their first efforts to implement it in January, eight of the 10 teachers again indicated confusion about it. As one teacher put it, "I still really don't have a clear understanding of the innovation, and I can assure you that I'm not the only one." Probe questions directed at the two teachers who felt they were clearer about the new role model in January than November

indicated that they, too, had at best hazy notions about what was expected of them. And when we asked the teachers about the clarity of the innovation in May, just prior to our assessment of its degree of implementation, eight of the 10 teachers indicated that they still had an ambiguous notion of what was expected of them.

Our findings suggest, in short, that the variable, the clarity of an innovation as perceived by organizational members, needs to be taken into account in conceptual schemes designed to explain the success or failure of efforts to implement innovations.

A second potential obstacle to the implementation of an organizational innovation that tends to be overlooked in most conceptual schemes is that members may lack the capabilities required to carry it out. Our study revealed that this circumstance was an important contributing factor to the teachers' abandonment of efforts to implement the innovation we studied.

All teachers reported that serious problems which they were unable to resolve arose when they made their initial efforts to implement the innovation in January. They all indicated that these unresolved problems persisted during the following months when they attempted to carry it out, and furthermore, that new problems, with which they could not cope, also arose. In the words of one teacher, "I never was able to instigate enthusiasm in these kids while keeping the noise level down, and I never knew how to get them to use their time for learning instead of playing. The children were beginning to abuse freedom; they wouldn't do any work; they wouldn't record what they had done; many became discipline problems who weren't in the beginning. I just didn't know what to do." All teachers reported that they had encountered serious problems in maintaining

discipline that they could not cope with. Nine out of 10 said that their pupils had "just played around with materials" or "made no effort to learn something from the materials." Eight out of 10 mentioned related problems: difficulties in keeping children interested, in motivating them, in stimulating them to pursue their own interests, and in getting them to help each other with their learning problems. Most reported that large numbers of their pupils were continually demanding "direction" from them. This evidence, and much more that could be cited, indicates that the teache were beset with a host of serious and unresolved difficulties during their attempts to implement the new role model. In this sense they were incapable of performing in accord with the new role model. We, therefore, concluded that their abandonment of efforts to implement the innovation in May was in part because they lacked the skill and knowledge to perform the new role. These data indicate that a second variable, the capability of members of an organization to implement an innovation, needs to be included in schemes designed to account for the success or failure of efforts to implement innovations.

A third obstacle to which organizational members can be exposed that tends to be disregarded in conceptual schemes that have been applied to the implementation of organizational innovations is that they may lack the tools and equipment required to carry them out. In a brochure prepared for the teachers by the administration, they were told that teachers should "transfer as much of the instructional and 'motivational' responsibilities as possible from the teacher to the total classroom environment -- and to the greatly enhanced materials with which the room should be filled."

But our observations in the classrooms revealed that "highly motivating

self-instructional materials were never made available to teachers in their efforts to carry out the innovation. For example, the list of materials available to teachers in the primary grades for reading consisted of independent work sheets, word games such as "Spill and Spell," vocabulary flash cards, riddles, a set of telephones and some library books. For mathematics, there were cuisenaire rods, an abacus, Count the Beads, a scale, math card games, math flash cards, a printing set for numerals; for art, the materials available consisted of paper and various media like crayons and water paints; and for writing, a typewriter was available.

Most of these materials represent the kind of supplementary materials that can be found in a well-stocked suburban elementary school. They did not appear to, nor did they in fact, represent instructional materials that permitted pupils to progress very far in a meaningful way on their own, that is, without instruction from the teacher.

These materials were not only of dubious quality in terms of their intended educational objectives. They were also in short supply when the teachers initially attempted to implement the innovation and later on as well. Eight of the 10 teachers complained bitterly about the paucity of curriculum materials made available to them when they described their earlier efforts to implement the innovation. In short, the quality and quantity of materials required to implement the innovation were never made available to the teachers throughout the period in which they had attempted to carry it out. These findings suggest a third variable, the availability of tools and equipment, that needs to be taken into account in formulations designed to explain the success or failure of efforts to implement innovations.

A fourth obstacle with which organizational members can be confronted in their efforts to implement an innovation is organizational conditions existing prior to its introduction that are incompatible with the innovation but that are not modified. Although we were able to isolate many circumstances of this kind, we shall consider here only two of them. The first is that although the nature of the innovation required a highly flexible educational environment, most aspects of the rigid school schedule that existed prior to its introduction were retained. All children were kept out of the school building in the morning until the 8:30 bell rang and released in the afternoon by the 2:20 bell; a second bell rang in the morning before classes began. Bells were also rung for recess and lunch, all classes were expected to participate in recess from 10:30 to 11:00 and lunch from 12:00 to 12:30. Teachers were expected to adhere to this schedule. Children were taken in groups to lavatories at lunch and recess; they were required to walk up and down stairs in single lines, and were dismissed at the end of the day in a similar fashion. Moreover, children were required to participate in certain types of activities regardless of their interests. These included reading in the morning, art, music, sewing, gym, and field trips. The continuation of these school procedures clearly served to block the teachers' efforts to implement the innovation.

The second illustration is the retention of the old system of evaluating pupils. The school at the time of the announcement of the innovation was using a report card system that required teachers to "give grades" to each child for his mastery of different skills and subjects. However, the innovation specified that teachers should focus on the process of learning and the "operational competencies" involved,

such as defining problems, organizing evidence and information, comparing and differentiating phenomenon, and developing hypotheses. The system of evaluating pupils, therefore, required alteration if teachers were to encourage these new types of behaviors in their pupils. However, the old report card system was retained. The teachers were not only acutely aware of the lack of congruence between the ostensible purposes of the innovation and the "outmoded" criteria they were being asked to apply to their pupils; they also became increasingly upset about this discrepancy over time. The extent to which organizational properties are compatible with innovations introduced into an organization, then, is a fourth variable that needs to be included in theoretical formulations designed to account for the implementation of organizational innovations.

To this point we have noted four ways in which our empirical case study invites the extension of theory with respect to the implementation of organizational change. We would contend that formulations applied to the problem of the implementation of directed change that do not take into account that the clarity of an innovation, members' capability to perform it, the existence of tools and resources, and the compatibility of organizational conditions with the innovation may influence the degree to which an innovation is implemented are based on an overly simplistic conception of the implementation process. These variables need to be introduced into the scheme of analysis not only because they are essential to account for the case of a failure of the implementation of an innovation we studied; more generally, it can be argued that on an a priori basis they appear to be a set of variables that constitute desiderata for the maximum implementation of most organizational innovations.

The Role of Management in the Implementation of Innovations

Our study suggested another needed extension of prevailing theories designed to account for the implementation of organizational innovations: greater provision must be made for the influence that management, as a critical part of a subordinate's role set, can have on the implementation process. The power equalization formulation, for example, assumes that the primary contributions management can make to the success or failure of the process is sharing power with those organizational members who must implement an innovation. We do not question the proposition that if organizational members are resistant to change, power equalization may be one means by which their resistance may be reduced. However, we do question the implicit assumption of power equalization schemes that this is the only or primary way management may influence the implementation of innovations. What has been ignored is that the performance of management can have a critical bearing on the implementation of innovations in other ways, most notably in establishing the conditions that will permit subordinates to implement innovations and in rewarding them for their efforts. The importance of the role performance of management becomes evident in our case study when we ask why the barriers teachers encountered when they first attempted to implement the innovation were never removed.

In view of time limitations, we can only summarize our major findings in this connection. The evidence indicated that the teachers' lack of clarity about the new role model could largely be attributed to the following conditions: ambiguities in the minds of the Director and his administrative subordinates about the specific nature of the new role requirements for teachers; the failure of the administrators to provide

effective mechanisms for teachers to obtain clarification about their role expectations; and the failure of the staff to secure clarification about the innovation because of their lack of confidence in the capabilities of their administrators. In attempting to account for the staff's lack of capability in its attempts to implement the innovation, we concluded that this condition could be largely explained by the failure of the administration to recognize that the teachers needed to be resocialized if they were to conform to the new definition of their role and its failure to provide them with the type of retraining they required. The lack of self-instructional materials which the teachers needed to implement the innovation was attributed in part to bureaucratic regulations about purchasing them. But more important was the unwillingness of the administration to face up to the reality that teachers had neither the skills nor time required to develop new instructional materials on the job. The failure to make modifications in organizational arrangements was traced back to the administration's unawareness that existing organizational arrangements were incompatible with its implementation and to a lack of commitment on the part of the Director's key administrative subordinate to the innovation.

These findings led us to conclude that teachers were unable to implement the innovation largely because the administration failed to recognize or to cope effectively with the problems to which it exposed teachers when it asked them to carry it out. And this condition, we would contend, was a consequence of the Director's simplistic view of the process of the implementation of organizational innovations and his lack of awareness of his role obligations to his subordinates when he initiated this process.

The Director's view of the steps required to implement the innovation, as evidenced by the strategy he employed, may be described as follows: (1) explain the philosophy and objectives of the innovation through several written documents to the staff; (2) give teachers maximum freedom to carry it out; and (3) delegate responsibility to an administrative subordinate (the Assistant Director) to see that the innovation is implemented.

We contend that the Director's strategy was essentially inadequate for two basic reasons. First, it failed to take account of difficulties which could have been anticipated and to which teachers were in fact exposed when they attempted to implement the innovation. Second, it contained no provisions for mechanisms to identify and cope with unanticipated problems that might emerge during the period of attempted implementation.

The Director's strategy for implementing the innovation gave practically no consideration to the kinds of obstacles that were likely to confront the teachers as they attempted to implement the new role model. We have noted a number of these barriers; for example, lack of clarity about the expectations for their role performance; their reservations about the assumptions underlying the innovation; unavailability of the types of instructional materials required; incompatible organizational arrangements; difficulties in changing the patterns of their role performance and in dealing with difficulties such as maintaining order in the classroom required by the innovation and ascertaining pupil interests. Since the Director's strategy essentially ignored these potential problems, no efforts were instituted prior to the introduction of the innovation to attempt to remove these barriers to the implementation of the

innovation nor was consideration given to ways to cope with them if they emerged during the period of attempted implementation. But these potential obstacles could have been anticipated and dealt with if the Director had recognized that the implementation of an innovation is a complex process and that, therefore, his strategy for implementing it needed to include provisions for attempting to identify difficulties and barriers that his subordinates would encounter and for developing mechanisms to cope with them.

The second major deficiency in the Director's strategy was its lack of feedback mechanisms. The Assistant Director had a number of reservations about the innovation as did the subject specialists and a number of the teachers. But the Assistant Director was never given adequate opportunity to communicate his feelings to the Director about this matter, and the teachers and subject specialists never spoke frankly about them to their superiors. And, for still other interpersonal and organizational problems that occurred during the period of attempted implementation, none were discussed openly and frankly. This condition, we contend, was a consequence of the lack of provision for feedback mechanisms. The Director made numerous assumptions about the innovation and the operation of the school that were in fact tenuous. He assumed that the Assistant Director and he were in agreement about the nature of the innovation. He assumed that the teachers did not need outside assistance in coping with their classroom problems and that those that arose could be effectively handled by the Assistant Director or the subject specialists. But these and other assumptions he made were in fact erroneous and since the Director did not provide for feedback mechanisms in his strategy of implementation, he had no way of obtaining "the facts" and

thereby could not identify or cope with these unrecognized barriers to the implementation of the innovation.

We, therefore, concluded that the most plausible explanation of why the prerequisites for implementation failed to develop may be attributed to two fundamental deficiencies in the strategy used by the Director to promote the implementation of the innovation: (1) he failed to identify and deal with the types of difficulties teachers were likely to encounter in their attempts to implement it, and (2) he failed to establish and use mechanisms to uncover barriers that arose during the period of attempted implementation.

This suggests that existing conceptual schemes may need to be reformulated so that they take into account that when management adopts an organizational innovation and asks subordinates to implement it, subordinates may be unable or find it difficult to make changes in their role performance unless management conforms to a set of expectations that subordinates "have a right to hold" for its performance. More specifically, subordinates have a right to expect management (1) to take the steps necessary to provide them with a clear picture of their new role requirements, (2) to adjust organizational arrangements to make them compatible with the innovation, (3) to provide them with the resocialization experiences required so that they will possess the capabilities needed to cope with the difficulties they face when they make efforts to implement the innovation, (4) to provide the resources necessary to carry out the innovation, and (5) to provide the appropriate supports and rewards to maintain their willingness to make the efforts. Furthermore, subordinates have a right to expect management to be committed to the implementation of the innovation, to provide effective mechanisms and effective decision-making procedures to cope with anticipated and unanticipated problems

that may arise during attempted implementation. Our findings, in short, suggest that the extent to which these expectations are recognized by management, built into its strategy, and conformed to, will have a direct bearing on the degree to which subordinates implement organizational innovations. The role of management, in short, in the implementation process needs to be brought to center stage in theoretical formulations of the problem.

The Time Dimension

Our third reservation about the "resistance" explanation was that it failed to take into account that resistance can develop over time among organizational members who are positively predisposed to change as a consequence of frustrations they have encountered in attempting to implement an innovation. Our data provided support for the importance of taking this possibility into account.

As noted earlier, evidence gathered from both informal and formal interviews with the staff revealed that there was a general acceptance of the need for change at the school in November, 1966, and a general willingness to make the efforts needed to carry out the innovation. Furthermore, the data showed that despite the fact that four of the teachers had negative reactions to the innovation at the time of its announcement, all of them reported a willingness to try to make efforts to implement it.

This general picture, however, changed between the time of the innovation's announcement by management in the fall and our assessment of its degree of implementation by the staff the following spring. At the time of our assessment in the spring, we found that most staff members were no longer willing to make the necessary efforts to try to

implement the new role model.

The following statements illustrate the reactions of teachers to the innovation at that time. After a brief absence from school, one teacher noted sardonically, "Ya know, I was sitting home the last two days saying that it can't really be that way, and that this school can't be as bad as I think it is; then I came back. Ya know, it really <u>is</u> that mixed up, confused, and nutty!" Another said, "I wonder whether it's worth the effort one has to put into it [the innovation]. . . . I can't really tell how much they're learning nor how many are learning. . . ." In a statement revealing more openly the frustrations teachers were facing with the innovation, a third exclaimed, "I'm just getting tired; I can't take it with the kids anymore; I can't see what good it's [the innovation] doing; it's not worth it. . . . I go home and I've got a headache; I bite my nails. . . ." A fourth teacher reacting to the lack of discipline in children which she felt was caused by their response to the innovation exclaimed, "The kids are getting really fresh now. . . . Yesterday I had to go home and take two tranquilizers. The worst class is the second grade. . . ; what one child said to me I couldn't repeat. . . . I really hated coming to school today; I am sick of this place. . . ."

Our findings thus suggest that resistance to making efforts to implement an innovation can develop over time among members originally positive to changing because of problems and ensuing frustrations encountered during the period when they attempt to carry an innovation out. In short, the fact that organizational members' resistance or unwillingness to make efforts to implement innovations can develop during the <u>period</u> of attempted implementation needs to be taken into account in

theoretical schemes proposed as explanations for why organizations succeed or fail to implement innovations.

A Tentative Theory of the Implementation of Organizational Innovations

The findings of our case study thus indicated that a number of conditions and circumstances that appeared to account for the failure of the implementation efforts were not taken into consideration by those theoretical formulations that define the problem of implementing organizational changes as essentially one of overcoming resistance to change. They suggest the need to take into account a number of variables which have not been included in these schemes of analysis.

We would suggest that the starting point for the explanation of the implementation of organizational innovations needs to be based on the four following assumptions:

The first is that the degree to which members of an organization have a clear understanding of the innovation will be positively related to their ability to implement it. If they have an ambiguous understanding of the innovation, then they will be unclear about what is expected of them. If they have an erroneous interpretation of the innovation, then their efforts at implementation will be misguided. The second assumption is that a staff's ability to implement an innovation will be a function of its capacity to carry it out. If teachers lack the skills required to perform in accord with the demands of the innovation, then it will be impossible for them to carry it out. The third condition is that their ability to carry it out will be a function of the availability of the tools and resources required by the innovation. The fourth condition is the compatibility of organizational arrangements with the

innovation. If arrangements in existence prior to the introduction of the innovation are incompatible with it and are not changed, then it will be more difficult for them to carry it out.

To this point we have maintained that four conditions will influence a staff's ability to carry out an innovation -- the clarity of the innovation, its capabilities, the availability of required materials and tools, and the compatibility of organizational arrangements with the innovation. However, if all of these conditions are fulfilled it does not follow that the staff will implement an innovation. It must be motivated to expend the time and effort required for implementation, and thus this condition also must be operative.

Our next assumption is that the extent to which these five conditions are fulfilled will be a function of the performance of management. If ambiguity or confusion exists in the minds of the staff, management is in the best position to clarify the situation. Furthermore, the authority to establish training programs and provide the materials and tools required for the innovation is lodged in management. In addition, only it has the power to make changes in organizational arrangements that are incompatible with the innovation. And it, too, is the agency that is in the position to offer the types of rewards and punishments that can motivate the staff to expend the time and effort required to implement an innovation.

If, as we have assumed, the implementation by the staff of an innovation is a function of the degree to which the five conditions specified above are fulfilled; and if as we have additionally assumed, the extent to which these conditions are fulfilled will be a consequence of the performance of management, then it follows that the degree of

implementation of an organizational innovation will be a function of the extent to which management fulfills these conditions.

Final Considerations

Until now we have stressed findings of the case study that suggest the need for the reformulation of existing conceptualizations of the problem of the implementation of organizational innovations. Now we consider several additional reservations about these formulations that arose from our critical appraisal of them.

The first is they ignore the possible impact upon the implementation of innovations of forces external to organizations. In the case of schools, for example, they ignore the possibility of significant influence from aspects of the larger school system, such as higher administrative officials, parents, and other ccmmunity agencies on the implementation process. In our case study, these influences appeared to be minimal. However, in other situations pressures and constraints from the outside could have major consequences for the process.

Our second reservation about formulations that are based on "the resistance of members to change" assumption is that this premise may be tenuous in many empirical situations. They assume that members are generally satisfied with existing organizational conditions and thus that any disturbance in them, such as a proposed change will be met with resistance. We submit that in many organizations the empirical reality is that many members are exposed to difficult problems in their work situation and would welcome innovations that would appear to offer solutions to their difficulties. Therefore we would challenge the

resistance to change assumption and would argue that a more tenable one is that the degree to which organizational members are resistant to change needs to be taken as problematic, rather than as "a given" in theoretical formulations of the successful implementation of organizational innovations.

A third issue that needs to be raised about existing conceptualizations is that they assume that the nature or complexity of an innovation is irrelevant to its successful implementation. It may turn out, however, that different strategies of implementation tend to be more or less effective depending upon such circumstances as the magnitude of change required of organizational members to carry out the innovation and the difficulties it creates for them. This suggests the need for a typology of innovations and the possibility that different explanations will be required to account for the successful implementation of different types of organizational innovations. In this connection, it is important to note that the theoretical explanation we offer in this paper to account for the implementation of organizational innovations may be relevant for only certain kinds of major organizational innovations, for example, those involving radical changes in the role performance of organizational members.

Finally, we wish to emphasize that our reflections about the case and the general problem of implementing major organizational innovations has led us to recognize the need to conceive of successful implementation as the result of a process which can be reversed or halted at numerous points in time. We would suggest that this process must result in fulfilling simultaneously the five conditions which we have specified earlier if maximum implementation is to be achieved. Since they are not

likely to prevail in most organizations when the decision is made to introduce an innovation, they must be developed prior to or during the period of attempted implementation. It may well be that there is a sequence of stages that must be followed in fulfilling the several conditions. Furthermore, because the conditions, even when achieved at one stage of the process, can be reversed, problems of their maintenance need to be considered as well as those of their development.

If this dynamic conception of implementation has merit, then management would need to develop a strategy which takes into account this processual view of the problem. One contribution of research could be the systematic isolation of factors in a variety of settings that block or facilitate management's efforts to lead organizations through the process.

The implications or generalizations drawn from a single case study, of course, must be taken with many grains of salt. And this case study is no exception. We would have greater confidence in our conclusions if they had emerged from studies of both successful and unsuccessful efforts to implement organizational innovations. However, we believe our study does raise a number of basic questions that have been ignored in schemes designed to account for the success or failure of the implementation of organizational innovations and suggests a number of variables that need to be systematically taken into account in subsequent theoretical formulations. We would contend that the findings of our inquiry and our speculations about the general problem indicate the need for the reformulation or extension of theory about the implementation of organizational innovations.

References

1. Robert K. Merton, Social Theory and Social Structure (Glencoe: The Free Press, 1957), revised edition, pp. 85-117.

2. Ibid., p. 108.

3. For examples see Michael Argyle, "The Social Psychology of Social Change," in T. Burns and S. B. Saul (Editors), Social Theory and Economic Change (London: Tavistock Publications, 1967), pp. 87-101; Lester Coch and John French, Jr., "Overcoming Resistance to Change," Human Relations, I:4 (1948), pp. 512-532; Paul R. Lawrence, "How to Deal with Resistance to Change," Harvard Business Review, XXXII:3 (May-June, 1954), pp. 49-57; Alvin Zander, "Resistance to Change -- Its Analysis and Prevention," in W. G. Bennis, K. D. Benne, and R. Chin (Editors), The Planning of Change (New York: Holt, Rinehart and Winston, 1961), pp. 543-548.

4. Argyle, op. cit., p. 95.

5. For example, see Warren G. Bennis, Changing Organizations (New York: McGraw-Hill Book Co., 1966), p. 176. He views the following conditions as necessary elements for successful implementation. The client system needs to have as much influence as possible in developing and controlling the fate of the change; it must have trust in the initiator; the client system must perceive the change effort as being as self-motivated and voluntary as possible; the change program must include emotional and value elements as well as cognitive elements. Bennis emphasizes that the quality of the relationship between the change agent and client system is "pivotal to the success of a change program" because the change agent "can be crucial in reducing the resistance to change by providing consultation and psychological support during the transitional phase of the change." (Italics ours.)

6. Argyle, op. cit., p. 95.

7. For a detailed discussion of this concept and its use in the planned organizational change literature, see Harold J. Leavitt, "Applied Organizational Change in Industry: Structural, Technological, and Humanistic Approaches," in James G. March (Editor), Handbook of Organizations (Chicago: Rand McNally and Company, 1965), pp. 1144-1170.

8. Argyle, op. cit., p. 94.

9. Leavitt, op. cit., p. 1159.

10. For specific examples, see C. Argyris, Interpersonal Competence and Organizational Effectiveness (Homewood, Illinois: Irwin and Co., 1962); L. P. Bradford, J. R. Gibb, and K. D. Benne, T-Group Theory and Laboratory Method (New York: John Wiley and Sons, Inc., 1964); E. Jacques, The Changing Culture of a Factory (London: Tavistock Publications,

1951); M. B. Miles, Learning How to Work in Groups (New York: Teachers College, 1959); Kurt Lewin, "Frontiers in Group Dynamics," Human Relations, I:1 (1947), pp. 5-41; E. H. Schein and W. G. Bennis, Personal and Organizational Change through Group Methods (New York: John Wiley and Sons, Inc., 1965). For reviews of work related to this general area, see L. E. Greiner, "Patterns of Organizational Change," Harvard Business Review, XLV:3 (May-June, 1967), pp. 119-128; D. Katz and R. L. Kahn, The Social Psychology of Organizations (New York: John Wiley and Sons, Inc., 1966), pp. 390-451; Leavitt, op. cit., R. E. Miles, "Human Relations or Human Resources?," Harvard Business Review, XLIII:4 (July-August, 1965), pp. 148-157.

11. The monograph in preparation will be entitled, tentatively, The Fate of an Educational Innovation, and limited copies will be available at the end of the summer through the Harvard Graduate School of Education's Center for Research and Development on Educational Differences.

12. Our assessment of the degree of implementation focused on both the quantity and quality of the effort teachers made to carry it out in May, 1967. To determine the quantity of staff effort, we observed and then calculated the proportion of (their) time that teachers behaved in accord with the traditional role model as compared to the new role model. This required the observer to make repeated "rounds" each day to check all classes and to keep running records of the amount of time teachers devoted to performance in line with each role model. Analysis of data collected for this aspect of the assessment showed that the staff overall during this period spent nearly 85 per cent of the total time available to them in their classrooms behaving in accord with the old role model. To determine the quality of the teachers' performance during the time that they did devote to making "innovative efforts," the observer conducted in-depth systematic observations using an observation schedule of teacher performance in classrooms randomly selected for observation to guard against observer bias. Analysis of data collected for this purpose revealed that within the 15 per cent of time which teachers allotted to "innovative effort," their performance typically did not conform to key expectations of the new role model, for example, their obligation to act as catalysts between children and materials, and among children. Moreover, interviews with many teachers, as well as teachers-in-training who were present in the classrooms and who understood the innovation, corroborated these two findings: (1) that teachers were spending most of their time in classrooms behaving according to the traditional role model and (2) that their relatively small amount of "innovative performance" had serious deficiencies. A detailed discussion of the rationale underlying the evaluation, the assessment procedures employed, and our analysis of the data are presented in Chapter Five of the previously mentioned monograph that is in preparation.

13. The decision was made for two reasons. First, several teachers reported in confidence to the field worker that this teacher was intentionally misinforming him. They quoted him as saying privately that he was telling the field worker what he thought the field worker wanted to hear. Second, there were serious discrepancies between what this teacher reported about his behavior and the field worker's observations of that